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John Littler, Director
Hazardous Waste Clean-up Program
Washington Department of Ecology
Mail Stop PV-11
Olympia, Washington 98504

Dear Mr. Littler:

The Environmental Protection Agency (EPA) conducted a study at the Pasco Sanitary Landfill, Pasco, Washington, during July of 1985. The purpose of this letter is to transmit the final report and recommendations to the Washington Department of Ecology (WDOE). Previous information regarding this study was provided to Ecology through staff contacts made with Mike Gallagher of the Olympia Office, and Larry Peterson of the Spokane Regional Office.

The EPA investigation focused on five industrial waste disposal areas in the landfill. The purpose of the study was to determine if off-site migration of those wastes was occurring, and if so, if the site poses a threat to human health and the environment. Of particular concern was the fact that herbicide manufacturing wastes were disposed of at the site; these herbicides wastes may have contained low levels of dioxin. Thus, the study was conducted as part of EPA's National Dioxin Study.

Soil and groundwater samples were taken downgradient of each of the five industrial waste disposal areas. A total of 15 groundwater samples and 18 composite soil samples were taken in the landfill. All samples were analyzed for EPA's Hazardous Substance List with one exception - soils were not analyzed for volatile organic compounds.

As would be expected in a landfill, several organic and inorganic compounds were detected in the soils and groundwater near the industrial wastes disposal areas. At this site, the main route of possible human exposure to the chemicals is through groundwater. The following therefore summarizes EPA findings regarding groundwater in the area:

The groundwater at the landfill was encountered at 40-77 feet below the land surface. It flows in a southwesterly direction. No herbicides were detected in the groundwater; therefore no further dioxin testing is required.

Several other organic compounds were detected in the groundwater. The most significant levels found were for trichloroethylene and tetrachloroethylene which were found in concentrations above EPA's current drinking water standards. However, this groundwater is not used for drinking. The major groundwater use in the region is irrigation. EPA believes that even at these levels, the chemicals detected in groundwater

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do not pose a problem for irrigation use for two major reasons. First, the irrigation wells are deeper and at least 1600 feet downgradient from the monitoring wells used in this study; thus, these organic compounds are likely to be either bound to soils, degraded, or dispersed in the soil before reaching the irrigation wells. Second, if these compounds are present in the irrigation water, they are likely to volatilize during the spraying and then undergo airborne photodecomposition. This is, of course, in theory, and further evaluation of the irrigation wells would be the only way to actually resolve the question.

There is one last question that must be resolved as soon as possible, and that is in regard to the waste materials that were derived during the field investigation. There are approximately 100 55-gallon drums of waste material on-site. EPA requests assistance from Ecology in confirming that these wastes are not classified as hazardous materials and that the drums can be disposed of in the active part of the landfill. The wastes on-site include drill cuttings and disposable equipment used during the investigation. The analytical data for the soils analyzed can be found on pages 36-48 and Appendix F. If this is not enough information for such a determination, please let us know. Perhaps Ecology field personnel could assist in sampling for EP toxicity if necessary. We will also ask the advice of the Benton-Franklin County Health District on this issue.

In sum, EPA sees no immediate concerns for public health or the environment and does not plan any further activities at this time. Monitoring of this site is currently in the jurisdiction of Ecology. Based on the study findings, EPA recommends that Ecology consider the following recommendations in the management and oversight of the site:

1. Areas where erosion or site activities have exposed the plastic liner should be recovered with soil to preserve liner integrity.
2. Resampling and reanalysis of samples from each of the on-site monitoring wells and several of the surrounding irrigation wells will be necessary in order to explain the inorganic groundwater data.
3. Continue to monitor groundwater with bi-annual sampling and analysis to detect any on-set of migration from each burial zone.
4. If herbicide or herbicide water materials are detected by future monitoring, the potential for dioxin contamination exists. Migration of the material should then be evaluated.
5. Consider further evaluation of the volatile organic compounds detected in the monitoring wells to confirm the above-stated theory that these compounds do not pose a problem to human health or the environment.

Details on the study can be found in the report that accompanies this letter. Please contact Lori Cohen, Project Officer, if there are any questions or comments. She can be telephoned at (206) 442-2712. Finally, please let us know your response regarding the disposal of the drums of waste derived during the investigation.

Thank you for your attention to this matter.

Sincerely,

Robert G. Courson, Chief
Superfund Branch

Enclosures

cc. Dietrich
Peterson
Gallagher
Keivit
Gaulding
Vendetti

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